

REMARKS

I. Status of the Application

Claims 1-23 were filed in the original application. Claim 24 was added in the Amendment mailed April 19, 2004, and Claims 25-30 were added in the Amendment mailed December 14, 2004. Without acquiescing to the Examiner's arguments and in order to expedite prosecution of the application, Claims 2-4, 7-19, 21, and 23 were canceled in the Amendment mailed April 19, 2004. Applicants reserve the right to prosecute these or similar claims in the future. As such, Claims 1, 5-6, 20, 22, and 24-30 are pending in the application.

II. Election/Restriction Requirement

Claims 25-30 were added in the Amendment mailed December 14, 2004. In the Office Action mailed March 10, 2005, the Examiner alleged that Claims 25-30 are directed to an invention that is independent or distinct from the invention originally claimed. The Examiner asserts that new claims 25-30 (alleged Invention II) are related to the original claims (alleged Invention I) inasmuch as the claims of Invention (II) disclose an inventive process that uses the invention claimed in the claims of Invention (I). The Examiner argues, however, that the related inventions are distinct because the apparatus, presumably of Invention (I), may be used to perform reactions.

Applicants respectfully point out that the Office Action does not provide an "appropriate explanation" [MPEP §803 ¶5] of why the claims in the application are properly assignable to different classifications, or have separate status in the art, or require different fields of search. Moreover, the Office Action cites no patents or other evidence to favor the view that the inventions resulted from separate inventive effort by the inventors [MPEP 808.02(b)]. Notwithstanding these observations, Applicants do not wish to agree or disagree with the Examiner's views about the relatedness or unrelatedness of the multiple inventions the Examiner claims to have found in the application.

Applicants do argue, however, that the Examiner, in searching for the claimed method (of Claims 25-30) for decreasing the quantity of vapor emissions released into the surrounding atmosphere created during the use of an oligonucleotide synthesizer will inevitably find references (if any exist) that teach the use of the oligonucleotide synthesizer of Claim 1, as the

use of the oligonucleotide synthesizer of Claim 1 is a required element of the method claims. Thus, a search for the method for decreasing the quantity of vapor emissions released into the surrounding atmosphere created during the use of an oligonucleotide synthesizer will, *ipso facto*, constitute the entire burden on the Examiner in searching for prior art that may be relevant to any claim in the application (a consideration the MPEP indicates is dispositive). Accordingly, Applicants submit that the Examiner has not established sufficient grounds for making a restriction requirement in this case. Applicants therefore request that the Examiner reconsider the imposed restriction.

If the Examiner declines to reconsider, Applicants reserve the right to request reconsideration of Claims 25-30 if a finding of allowability of one or more of any of the claims in the application affects the basis of any of the Examiner's arguments summarized above.

III. The Claims Are Definite and Supported by an Adequate Written Description

Claims 20 and 25 have been amended. The amendments provide sufficient antecedent basis for the limitations in the claims. Support for these claims may be found in the specification at page 5, lines 21-23 and lines 28-30, page 13, lines 1-3 and lines 15-19, and page 14, lines 22-27, among other places. Additionally, Claim 1 has been amended to recite that the lid enclosure comprises a ventilation system. Support for this amendment can be found on page 13, lines 12-20 of the specification, among other places.

Accordingly, it is respectfully submitted that Claim 20 and claims dependent thereon, and Claim 25 and claims dependent thereon are supported by an adequate written description and that the Examiner's arguments are moot.

IV. Claim 1 is Not Anticipated by Levin *et al.*

The Examiner rejected Claim 1 under 35 U.S.C. §102(b) as allegedly being anticipated by Levin *et al.* (U.S. Pat. No. 6,432,365).

Applicants assert that a rejection of Claim 1 under 35 U.S.C. 102 as being anticipated by Levin *et al.* is improper. "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference."¹ The

¹ *Verdegaal Bros. v Union Oil Co. of California*, 814 F.2d 628, 631 (Fed. Cir. 1987).

cited reference does not teach nor possess all of the elements of the claimed invention. Thus, Claim 1, and claims dependent thereon, cannot be anticipated by the prior art.

At page 2 of the Office Action mailed July 14, 2004, the Examiner admits that Levin *et al.* teach a system that comprises a centrifuge (110) that comprises a chamber (112) with a software-controlled access door (116) provided as an opening (436) for accessing the chamber (112) wherein ventilation is provided by a venting cover (208) with a plurality of ports for vent lines. Thus, the Examiner acknowledges that the venting cover (208) is distinct and separate from the chamber lid/software-controlled locking access door (116) of the Levin system. Thus, Levin *et al.* does not teach a reaction chamber and a lid enclosure that comprises a ventilation system.

Specifically, the centrifuge of the Levin *et al.* system is described in Column 12, lines 37-64. As shown in FIG. 1, the centrifuge (110) comprises a chamber (112) and a software-controlled locking access door (116)². The centrifuge chamber (112) comprises a top portion (420). The interior surface (426) of the chamber top (420) is formed with a concave cross-section to reduce the overall chamber volume. In addition, a plurality of ribs (302) are formed in the chamber top (420), as shown by dashed lines in FIG. 3. The ribs (302) provide recessed areas (304). When the system is fully assembled, a venting cover (208) is mounted on the chamber top (420) covering recessed areas (304). The venting cover (208) fits closely around the access openings and has a plurality of ports (210) formed therethrough for vent lines.

In contrast, the oligonucleotide synthesizer in Claim 1 of the present invention comprises a reaction chamber lid enclosure, wherein the lid enclosure itself comprises a ventilation system. Levin *et al.* does not teach this element. Rather, Levin *et al.* teaches a system that comprises a chamber that comprises both a chamber lid/software-controlled locking access door and a separate, distinct venting cover.

As Levin *et al.* does not disclose all elements of the claimed invention, Claim 1, and claims dependent thereon are not anticipated by Levin *et al.* under 35 U.S.C. 102.

V. The Claims are Not Obvious

² Note that the software-controlled access door (116) is also referred to as the centrifuge chamber lid (116) in the Levin *et al.* patent. See Column 8, lines 27-29.

In the Office Action mailed July 14, 2004, pages 3-4, and the Office Action mailed March 10, 2005, pages 4-5, the Examiner rejected Claims 5 and 6 under 35 U.S.C. §103 as allegedly being unpatentable over Levin *et al.* (U.S. Pat. No. 6,432,365) and Claims 20, 22 and 24 as allegedly being unpatentable over McGowan *et al.* (U.S. Pat. No. 6,238,627) in view of Heyneker *et al.* (U.S. Pat. No. 6,264,891). Applicants respectfully disagree.

A *prima facie* case of obviousness requires the Examiner to provide a reference(s) which (a) discloses all of the elements of the claimed invention, (b) suggests or motivates one skilled in the art to combine the claimed elements to produce the claimed combination, and (c) provides a reasonable expectation of success should the claimed combination be carried out. Failure to establish any one of these three requirements precludes a finding of a *prima facie* case of obviousness and without more entitles Applicants to allowance of the claims in issue.³ Applicants respectfully submit that the cited references are not properly combined.

A. Claims 5 and 6 Are Non-Obvious

The Examiner rejected Claims 5 and 6 under 35 U.S.C. §103(a) as being unpatentable over Levin *et al.* (U.S. Pat. No. 6,432,364). However, as described in detail above, Claim 1 is not anticipated by Levin *et al.* Thus, because Levin *et al.* does not teach or suggest all elements of the present invention, a *prima facie* case of obviousness can not be established (MPEP §2143.01). Applicants respectfully request this rejection be withdrawn.

B. Claims 20, 22 and 24 Are Non-Obvious

There is no basis for combining the McGowan *et al.* and Heyneker *et al.* references. The presently claimed invention is directed to a ventilation system comprising a ventilation tube, a lid enclosure on a nucleic acid synthesizer, and a vacuum source connected to the ventilation tube. Thus, in order to properly combine the references, the references themselves would need to teach or suggest that a ventilation system be comprised with these elements. The Examiner has pointed to no such teaching or suggestion.

Instead of providing a teaching or suggestion to combine, the Examiner states that "The Examiner believes that Heyneker still provides a teaching of vacuum use that would lead one of ordinary skill in the art to attach a vacuum to the lid of McGowan" and that "one of ordinary skill

³ See, e.g., *Northern Telecom Inc. v. Datapoint Corp.*, 15 USPQ2d 1321, 1323 (Fed. Cir. 1990).

in the art would recognize that it would be obvious to also provide a vacuum source for the port (34) to collect the gas in the contained space as taught by Heyneker." These statements are examples of conclusory reasoning, based only on hindsight reconstruction of the claimed invention.

A recent Federal Circuit case explicitly discusses the standards for establishing motivation to combine. (*See, In re Lee*, 277 F.3d 1338 (Fed. Cir. 2002)). Specifically, the Federal Circuit held that:

The factual inquiry whether to combine references must be thorough and searching. It must be based on **objective evidence** of record. **This precedent has been reinforced in myriad decisions, and cannot be dispensed with.**⁴

Furthermore, an Examiner may not simply rely on conclusory statements even for what they think might be common sense or well known in the art:

The 'common knowledge and common sense' on which the Board relied in rejecting Lee's application are not the specialized knowledge and expertise contemplated by the Administrative Procedure Act. Conclusory statements such as those here provided do not fulfill the agency's obligation. This court explained in *Zurko*, 258 F.3d at 1385, 59 USPQ2d at 1697 that 'deficiencies of the cited references cannot be remedied by the Board's general conclusions about what is 'basic knowledge' or 'common sense.' The Board's findings must extend to all material facts and must be documented on record, lest the 'haze of so-called expertise' acquire insulation from accountability. 'Common knowledge and common sense,' even if assumed to derive from the agency's expertise, do not substitute for authority when the law requires authority.⁵

In the present rejection, the Examiner's analysis is conclusory because the Examiner has merely stated what the Heyneker reference technically teaches (i.e., a vacuum valve used to collect non-reactive gas) and then states the use "would lead one of ordinary skill in the art to attach a vacuum to the lid of McGowan" in order to modify McGowan with this teaching. This is precisely the type of the rejection that the Federal Circuit has forbidden in *In re Lee*. The **only reason** provided by the Examiner to modify McGowan is that "one of ordinary skill in the art would recognize that it would be obvious." There is no "objective evidence of record" as required by the Federal Circuit. This is not surprising, since McGowan and Heyneker are

⁴*See, In re Lee*, 277 F.3d 1338, 1344 (Fed. Cir. 2002); internal citations omitted; emphasis added.

⁵*Id.* at 1344-1345.

directed to different technologies, and neither reference, alone or combined, teaches or suggests a ventilation system comprising a ventilation tube, a lid enclosure on a nucleic acid synthesizer, and a vacuum source connected to the ventilation tube.

Applicants do not believe that these references establish a *prima facie* case of obviousness. Furthermore, Applicants believe the aforementioned arguments effectively rebut the Examiner's obviousness rejections. Nothing in this response shall be taken as an admission that the Examiner's statements about these references are correct. Applicants respectfully request this rejection be withdrawn.

CONCLUSION

For the reasons set forth above, it is respectfully submitted that Applicants have addressed all grounds for rejection and Applicants' claims as amended should be passed to allowance. Should the Examiner have any questions, or if a telephone conference would aid in the prosecution of the present application, Applicant encourages the Examiner to call the undersigned collect at 608-218-6900.

Dated: June 10, 2005



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